Trigonometry Workbook

Angles and their measure

krista king
MATH

COMPLEMENTARY AND SUPPLEMENTARY ANGLES

1. Find the supplement θ of $7\pi/8$ radians.

2. Angles $\angle 1$ and $\angle 2$ are complementary. Find the supplement of $\angle 2$.

$$m\angle 1 = (2x + 5)^\circ$$

$$m\angle 2 = (x + 4)^\circ$$

3. The complement of θ is $\pi/6$ radians. Find the supplement of θ.

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SKETCHING ANGLES IN STANDARD POSITION

- 1. Sketch -210° in standard position.

- 2. Find the measure of the angle (in radians).

- 3. Sketch the angle in standard position.

$\frac{3\pi}{2}$ radians

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QUADRANT OF THE ANGLE

1. In which quadrant is the angle located?

$\frac{\pi}{5}$ radians

2. In which quadrant is the angle located?

-820°

3. In which quadrant is the angle located?

$-\frac{13\pi}{4}$ radians

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FINDING COTERMINAL ANGLES

1. If you start with -270° and rotate it three times clockwise around the origin, find the measure of the new angle.

2. If you start with $5\pi/6$ radians and rotate it two times counterclockwise around the origin, find the measure of the new angle.

3. Find the negative and positive coterminal angles that are one rotation around the origin from $\theta = 200^\circ$.

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CONVERTING BETWEEN DEGREES AND DMS

■ 1. If the measure of an angle is given in DMS, find its measure in decimal degrees.

$65°13'12''$

■ 2. Convert $-172°4'36''$ to decimal degrees.

■ 3. Find the sum in DMS.

$20.25° + 20°2'5''$

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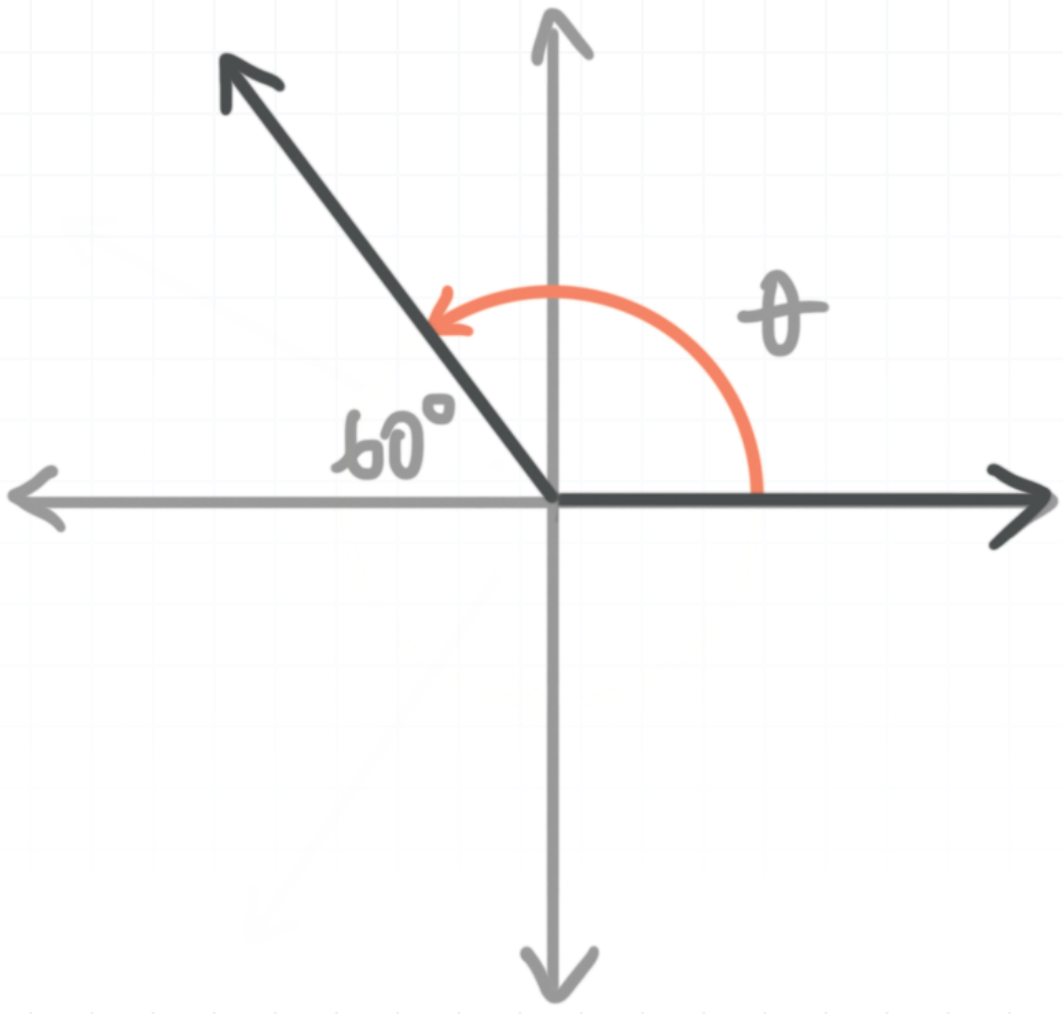
CONVERTING BETWEEN DEGREES AND RADIANS

1. What is the measure (in radians) of the angle θ ?



2. Convert the angle measure to degrees.

$-\frac{9\pi}{2}$ radians

3. What is the best approximation (in degrees) of the angle?

2.36 radians

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FUNCTIONS OF NEGATIVE ANGLES

■ 1. Find the angle that's coterminal with $-748°$ and lies in the interval $[-90°, 90°]$.

■ 2. Find the angle that's coterminal with $-21\pi/4$ radians and lies in the interval $[-4\pi, -2\pi]$.

■ 3. θ has a measure of $42°$. If the angle is rotated 6 full rotations in the negative direction, find its measure after the rotations.

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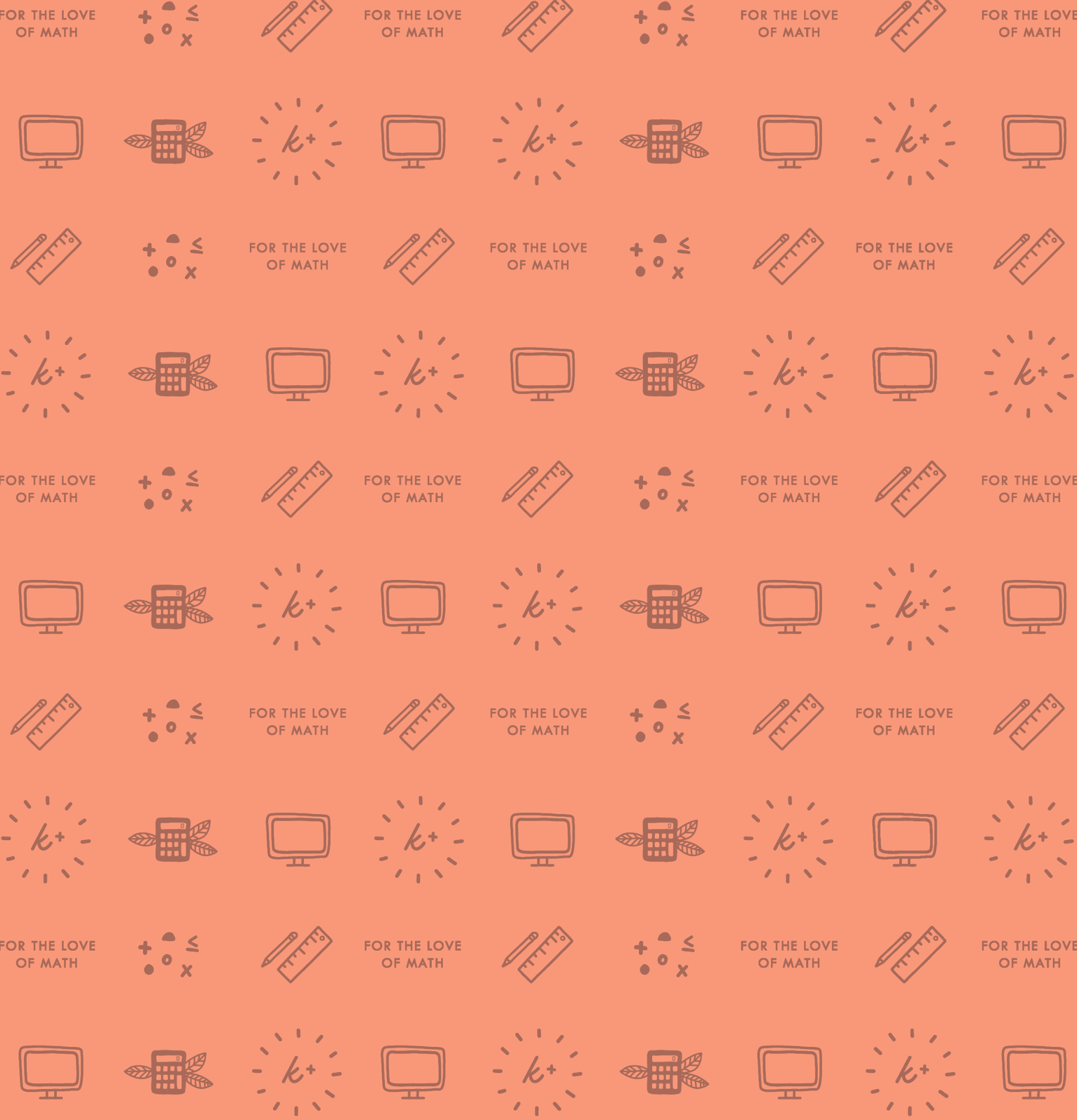
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